ecology and environment, inc.

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International Specialists in the Environment

MEMORANDUM

TO: Paul Doherty, EPA/DPO

FROM: Janice Frizzell, E & E/TATM JF

THRU: Joe Chandler, E & E/TATL FQN for J.C.

DATE: September 18, 1991

SUBJECT: Data for Dugan-Helterbrand Samples
TDD# T07-9104-019B
PAN# EM00929FBA
EPA OSC: Bob Wiggans

cc: Hieu Vu, TAT Project Manager

The following is a summary of the data review conducted by the Ecology and Environment, Inc., Technical Assistance Team (E & E/TAT) for two concrete-dust samples submitted to General Physics Corporation in Gaithersburg, Maryland, for analysis for total metals and cyanides by Contract Laboratory Program (CLP) protocol. A level II review of the data, as described in Region VII SOP #1610.2A (Reference 1), was conducted. The following validation codes, described in Region VII SOP #1610.3A (Reference 1) and OSWER Directive 9360.3A (Reference 2), were used.

J = The associated value is an estimated quantity because the reported concentrations did not meet quality control criteria.

UJ = The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria was not met.

I = The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria.

The overall quality of the data was fair. It should be remembered that CLP protocols are intended for soil and water samples and that the sample matrix submitted (concrete dust) may be inappropriate for CLP protocols. Possible matrix interference was noted in the analyses for metals because the matrix spike recoveries were low for some analytes. The values for copper, nickel, zinc, manganese, thallium, vanadium and cyanide were J-coded as estimated values because they did not meet

quality control criteria. The value for lead were I-coded as unusable because matrix spike recoveries were very low and sample results were below the instrument detection level for lead.

ATTACHMENTS

Review of Data for Total Metals and Cyanide
Summary of sample results with review codes

REFERENCES

1. U.S. Environmental Protection Agency, Region VII Environmental Services Division Operations and QA Manual. Procedures Referenced by SOP #:

   #1610.2A: Three Levels of Data Review, Region VII EPA, May 3, 1989.

   #1610.3A: Laboratory Data Validation Functional Guidelines for Evaluating Inorganics ANalyses, Hazardous Site Evaluation Division, U.S. EPA, July 1, 1988.

2. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Directive 9360.4-01 Quality Assurance/ Quality Control Guidance for Removal Activities, April 1990, Washington, D.C.

ATTACHMENT 1

Review of Data for Total Metals and Cyanide

Review of Data
For Total Metals and Cyanide

These data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses", July 1, 1988, revision (Reference 2). CLP protocol was requested and was followed for total metals in soil.

Laboratory: General Physics Corporation, Gaitherburg, MD
Analysis: 23 TCLP metal
cyanide
Matrix: Concrete dust
Sample #: BVXFQ062, BVXFQ063

Holding Times
All holding times for metals and cyanide were met.

Calibration
The correct number of blanks and standards were run for each of the analyses. Correlation coefficients all met criteria. The initial and continuing calibration verification standards (ICV and CCV) were all within control limits.

Blanks
All blanks were run at appropriate intervals and were free of contaminants.

ICP interference check sample (ICS)
All ICS results fall within required control limits and were run at appropriate intervals.

Laboratory Control Sample (LCS)
All LCS results fall within required specified criteria except sodium and potassium which are (J) coded as estimated values.

Duplicate Sample Analysis
All duplicate analysis results fell within control limits except copper, nickel, silver and zinc which fell outside control limits and are therefore (J) coded as estimated values.

Matrix Spike Sample Analysis
Several analytes were coded as a result of failing to meet quality control criteria. The analytes and their subsequent codes are as follows: Lead (I) coded as unusable, manganese, thallium, vanadium, zinc and cyanide were (J) coded as estimated values. Atrimony was (UJ) coded as an estimated value but was not detected. All other analytes met control criteria for this analyses.

ATTACHMENT 2

Summary of Sample Results
with review codes

GP Work Order # 91-05-021

SAMPLE ANALYSIS REPORT

Prepared For:

ECOLOGY ENVIRONMENT,INC.
6405 METCALF AVE. BLDG# 3
OVERLAND PARK, KN 66202

DUGAN-HELTERBRAND, INC.

Prepared By:

GP Environmental Services
202 Perry Parkway
Gaithersburg, Maryland 20877

May 17, 1991

Paul Ioannides, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Work order: 9105021
Work ID: DUGAN-HELTERBRAND, INC.
Date Received: 05/03/91

ECOLOGY ENVIRONMENT,INC.
6405 METCALF AVE. BLDG# 3
OVERLAND PARK, KN 66202
Atten: MR. DARREL MESSBARGER

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (800) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9105021-01A	BVXF0062
9105021-02A	BVXF0063

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9105021-01A
Client ID: BVXF0062

Matrix: CEMENT_DUST
Collected: 05/02/91

Element	Method	Result	Det.Lim.	Units	Digested	Analyzed by
Aluminum	NCAMM 200.7	5620.000	190.700	mg/Kg	05/07/91	DB 05/07/91
Barium	NCAMM 200.7	45.300	1.700	mg/Kg	05/07/91	DB 05/07/91
Beryllium	NCAMM 200.7	BQL	0.840	mg/Kg	05/07/91	DB 05/07/91
Cadmium	NCAMM 200.7	BQL	1.050	mg/Kg	05/07/91	DB 05/07/91
Calcium	NCAMM 200.7	183000.00	513.080	mg/Kg	05/07/91	DB 05/07/91
Chromium	NCAMM 200.7	27.400	2.100	mg/Kg	05/07/91	DB 05/07/91
Cobalt	NCAMM 200.7	BQL	4.600	mg/Kg	05/07/91	DB 05/07/91
Copper	NCAMM 200.7	(J) 19.800	1.700	mg/Kg	05/07/91	DB 05/07/91
Iron	NCAMM 200.7	8740.000	36.870	mg/Kg	05/07/91	DB 05/07/91
Magnesium	NCAMM 200.7	2800.000	28.900	mg/Kg	05/07/91	DB 05/07/91
Manganese	NCAMM 200.7	(J) 194.000	1.050	mg/Kg	05/07/91	DB 05/07/91
Nickel	NCAMM 200.7	(J) 22.700	5.100	mg/Kg	05/07/91	DB 05/07/91
Vanadium	NCAMM 200.7	(J) 19.200	4.000	mg/Kg	05/07/91	DB 05/07/91
Zinc	NCAMM 200.7	(J) 22.500	3.400	mg/Kg	05/07/91	DB 05/07/91
Antimony	NCAMM 204.2	BQL	4.090	mg/Kg	05/07/91	SB 05/09/91
Arsenic	NCAMM 206.2	4.3200	0.8200	mg/Kg	05/07/91	SB 05/08/91
Lead	NCAMM 239.2	(E)	0.4000	mg/Kg	05/07/91	MP 05/08/91
Mercury	NCAMM 245.5	BQL	0.1000	mg/Kg	05/07/91	SB 05/07/91
Potassium	NCAMM 258.1	(J) 746.0000	75.8000	mg/Kg	05/07/91	TES 05/13/91
Selenium	NCAMM 270.2	BQL	0.8400	mg/Kg	05/07/91	SB 05/08/91
Silver	NCAMM 272.2	(J) 111.0000	3.7900	mg/Kg	05/07/91	TES 05/08/91
Sodium	NCAMM 273.1	(J) 9280.0000	50.6000	mg/Kg	05/07/91	TES 05/13/91
Thallium	NCAMM 279.2	BQL	4.3200	mg/Kg	05/07/91	TES 05/08/91

Notes and definitions for this report:
BQL = Below Quantitation Limit

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9105021-02A
Client ID: BVXF0063

Matrix: CEMENT_DUST
Collected: 05/02/91

Element	Method	Result	Det.Lim.	Units	Digested	Analyzed by
Aluminum	NCAMM 200.7	5620.000	93.000	mg/Kg	05/07/91	DB 05/07/91
Barium	NCAMM 200.7	35.100	2.750	mg/Kg	05/07/91	DB 05/07/91
Beryllium	NCAMM 200.7	0.930	0.420	mg/Kg	05/07/91	DB 05/07/91
Cadmium	NCAMM 200.7	BQL	0.850	mg/Kg	05/07/91	DB 05/07/91
Calcium	NCAMM 200.7	187000.00	1167.000	mg/Kg	05/07/91	DB 05/07/91
Chromium	NCAMM 200.7	29.000	1.900	mg/Kg	05/07/91	DB 05/07/91
Cobalt	NCAMM 200.7	BQL	3.170	mg/Kg	05/07/91	DB 05/07/91
Copper	NCAMM 200.7	BQL	2.750	mg/Kg	05/07/91	DB 05/07/91
Iron	NCAMM 200.7	11100.000	39.100	mg/Kg	05/07/91	DB 05/07/91
Magnesium	NCAMM 200.7	2820.000	25.200	mg/Kg	05/07/91	DB 05/07/91
Manganese	NCAMM 200.7	(J)198.000	1.060	mg/Kg	05/07/91	DB 05/07/91
Nickel	NCAMM 200.7	(J) 7.930	6.550	mg/Kg	05/07/91	DB 05/07/91
Vanadium	NCAMM 200.7	(J)18.400	3.170	mg/Kg	05/07/91	DB 05/07/91
Zinc	NCAMM 200.7	(J) 53.400	1.480	mg/Kg	05/07/91	DB 05/07/91
Antimony	NCAMM 204.2	BQL	4.1000	mg/Kg	05/07/91	SB 05/09/91
Arsenic	NCAMM 206.2	47.2000	0.8200	mg/Kg	05/07/91	SB 05/08/91
Lead	NCAMM 239.2	(E)	0.4000	mg/Kg	05/07/91	MP 05/08/91
Mercury	NCAMM 245.5	BQL	0.1000	mg/Kg	05/07/91	SB 05/07/91
Potassium	NCAMM 258.1	(J)2370.0000	76.1000	mg/Kg	05/07/91	TES 05/13/91
Selenium	NCAMM 270.2	BQL	0.8400	mg/Kg	05/07/91	SB 05/08/91
Silver	NCAMM 272.2	(J)101.0000	3.8000	mg/Kg	05/07/91	TES 05/08/91
Sodium	NCAMM 273.1	(J)10100.000	50.7000	mg/Kg	05/07/91	TES 05/13/91
Thallium	NCAMM 279.2	BQL	4.3300	mg/Kg	05/07/91	TES 05/08/91

Notes and definitions for this report:
BQL = Below Quantitation Limit

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9105021-01A
Client ID: BVXFQ062

Collected: 05/02/91
Matrix: CEMENT_DUST

Parameter	Method	Result	Det.Lim.	Units	Analyzed by
Percent Solids	MCAWW 160.3	94.93		%	
Total Cyanide	SOW390/335.2	(=) 4530	2110	mg/Kg	TLH 05/10/91

GP ID: 9105021-02A
Client ID: BVXFQ063

Collected: 05/02/91
Matrix: CEMENT_DUST

Parameter	Method	Result	Det.Lim.	Units	Analyzed by
Percent Solids	MCAWW 160.3	94.63		%	
Total Cyanide	SOW390/335.2	(=) 315	211	mg/Kg	TLH 05/10/91

Notes and definitions for this report:
BDL = Below Quantitation Limit